

In re Appln. of Gridley et al.
Application No. 09/492,602

REMARKS

Applicants have carefully reviewed and considered the Office Action dated March 3, 2003, and the references cited therein. In response, applicants have amended claims 23 and 50. No new matter has been added by these amendments. Applicants believe that the application is now in condition for allowance. Accordingly, favorable reconsideration in light of the following remarks is respectfully requested.

Claims 23-27, 30-34, 40-48, 50, and 54-57 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,096,008 to Taylor in view of various secondary references. In response to the Section 103 rejections, applicants have amended claims 23 and 50 to patentably distinguish over the cited references. Applicants respectfully submit that the rejections should not be applied to the pending claims as amended.

The primary reference cited in the Office Action, Taylor, is directed to a method for retreading tires wherein a precured tread component is bonded to a tire casing primarily by using the residual heat in the precured tread component. The residual heat of the tire tread in the bonding zone is used to cure the cushion gum and to provide a bond between the tread and the tire. In one method, the tread is conveyed directly from a molding apparatus to the tire casing. In another method, the tread strip is stored and subsequently reheated by a heating device before being applied to the tire casing.

With respect to amended claim 23, Taylor does not teach or suggest applying a length of unheated cushion gum substantially without cement around the circumference of the tire casing; adjusting a length of tire tread along a track relative to a tread cutter so that, after being cut, first and second ends of the tire tread will provide a substantially continuous tread design when brought together on the casing; moving the cut length of tire tread along the track to provide the cut length of tire tread to the tire casing and cushion gum; or controlling the pressure applied to the tire tread during application, the pressure applied to the tread based on the circumferential distance of the casing and the cushion gum not covered by the tire tread and the length of tire tread not applied to the casing and the cushion gum. It is respectfully submitted that the secondary references applied by the Office Action fail to overcome the deficiencies in Taylor.

Regarding the application of unheated cushion gum substantially without cement, Taylor fails to teach or suggest such a step. In Taylor, the cushion gum is heated. *See* column 3, lines 48-52. Wulker is directed to coating a body with elastomeric material in the form of strands which are subsequently vulcanized. *See* column 1, lines 16-19. In the discussed embodiment, Wulker describes a hot retreading process wherein a machine 1 for retreading tires includes a unit 2 adapted to prepare rubber mass and has an extruder. *See*

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column 3, lines 21-24. The hot retreading process wherein the rubber is subsequently vulcanized does not mention the use of cushion gum whatsoever. The Wulker method does not teach or suggest, either alone or in combination, with the other applied reference to apply a length of unheated cushion gum substantially without cement around the circumference of the tire casing as recited in the cold retreading process of amended claim 23.

Regarding the adjusting step, Schelkmann is silent as to what steps one would take to obtain a matched tread strip. *See, e.g.*, column 5, lines 17-29. The statement in applicants' specification is nothing more than a recognition that a matched tread design is desirable. Nothing is pointed to in the art that teaches or suggests adjusting the tire tread relative to a tread cutter so that the tread design at the point where the tread may be cut matches the tread design at the first end.

Regarding the moving step, Taylor does not teach or suggest moving the cut length of tire tread along the track to provide the cut length of tire tread to the tire casing and cushion gum. In fact, in Figure 1 of Taylor, the leading edge of the tread 4 is shown partially applied to the tire carcass 7 before the trailing edge has been cut by the cutting device 16. None of the other embodiments of Taylor show the claimed step. In addition, Taylor does not teach or suggest conveying the section of tread along the track to the tire casing by propelling the first end of the tire tread. Nothing is pointed to in the art to overcome these shortcomings of Taylor.

Regarding the pressure controlling step, Continental discloses a method for applying a tread strip onto the carcass of a tire molding wherein the length of the strip is initially less than the corresponding carcass circumference. The difference in length is made up by pressing the strip onto the carcass and supporting drum by a roll at a pressure which is varied as a function of differences occurring between the angular rotation of the drum and the length of the portion of the tread still remaining to be applied.

The Office Action asserts that the angular rotation of the drum is analogous to the circumferential distance of the casing and cushion gum not covered by the tire tread. Continental does not discuss varying the pressure based on the angular rotation of a tire tread but rather on the angular rotation of the drum. Furthermore, the Office Action fails to point to anything in Continental that would lead one of ordinary skill in the art to consider the angular rotation of the drum in light of the time elapsed to determine the amount of the casing already covered, much less to then also consider the amount of casing not covered. Furthermore, following such a proposed course of action would introduce errors in that the length so computed would likely not reflect the actual length applied because the speed of

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angular rotation of the drum is not constant over time, there being fluctuations in speed upon initiation of the drum, for instance.

With respect to claim 40, Taylor fails to teach or suggest, *inter alia*, a tread dispenser adapted to automatically dispense a length of tire tread based on the circumference of at least one of the tire casing and the tire casing plus the cushion gum; an adjustable tread drive for tread matching; and a cementless cushion gum applicator for applying unheated cushion gum to a tire carcass. The secondary references applied fail to provide teachings or suggestions to modify Taylor to overcome these deficiencies.

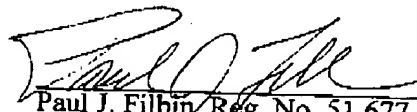
With respect to amended claim 50, Taylor fails to teach or suggest, *inter alia*, a cushion gum applicator adapted to apply a length of unheated cushion gum onto the tire casing; a track adapted to receive the length of tread from the tread dispenser and to provide the cut length of tread to the casing; and a variable force applicator that applies the tread to the casing with a variably controlled force based on the circumferential distance of the casing and cushion gum not yet covered by the tire tread and the length of tire tread not yet applied to the casing and cushion gum. The secondary references applied fail to provide teachings or suggestions to modify Taylor to overcome these deficiencies.

The remaining claims depend from one of claims 23, 40, and 50 and, thus, contain the same patentable features, respectively, thereof.

Conclusion

The application is considered to be in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,


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